0590
0717   #10

RAW SEQUENCE LISTING   DATE: 07/23/2002
PATENT APPLICATION: US/09/981,397A   TIME: 15:12:40

Input Set : A:\PTO.VSK.txt
Output Set: N:\CRF3\07232002\I981397A.raw

```
 3 <110> APPLICANT: Axxima Pharmaceuticals AG
 4         Schubart, Daniel
 5         Habenberger, Peter
 6         Stein-Gerlach, Matthias
 7         Bevec, Dorian
 9 <120> TITLE OF INVENTION: Cellular Kinases Involved in Cytomegalovirus Infection and
their
10         Inhibition
12 <130> FILE REFERENCE: AXM-004.1 US
14 <140> CURRENT APPLICATION NUMBER: 09/981,397A
C--> 15 <141> CURRENT FILING DATE: 2002-06-28
17 <150> PRIOR APPLICATION NUMBER: 60/240,750
18 <151> PRIOR FILING DATE: 2000-10-16
20 <160> NUMBER OF SEQ ID NOS: 22
22 <170> SOFTWARE: PatentIn version 3.1
24 <210> SEQ ID NO: 1
25 <211> LENGTH: 18
26 <212> TYPE: DNA
27 <213> ORGANISM: Artificial Sequence
29 <220> FEATURE:
30 <223> OTHER INFORMATION: synthetic polyT primer
32 <220> FEATURE:
33 <221> NAME/KEY: misc_feature
34 <222> LOCATION: (18)..(18)
35 <223> OTHER INFORMATION: n = a,c,g or t
38 <220> FEATURE:
39 <221> NAME/KEY: misc_feature
40 <222> LOCATION: (17)..(17)
41 <223> OTHER INFORMATION: v = a,g or c
44 <400> SEQUENCE: 1
W--> 45 tttttttttt tttttvn                                        18
48 <210> SEQ ID NO: 2
49 <211> LENGTH: 28
50 <212> TYPE: DNA
51 <213> ORGANISM: Artificial Sequence
53 <220> FEATURE:
54 <223> OTHER INFORMATION: cDNA probe for NIK-interacting kinase
56 <400> SEQUENCE: 2
57 gtcctggagg gctctttttg atgaaacc                                28
60 <210> SEQ ID NO: 3
61 <211> LENGTH: 30
62 <212> TYPE: DNA
63 <213> ORGANISM: Artificial Sequence
65 <220> FEATURE:
```

P.6

ENTERED

RAW SEQUENCE LISTING   DATE: 07/23/2002
PATENT APPLICATION: US/09/981,397A   TIME: 15:12:40

Input Set : A:\PTO.VSK.txt
Output Set: N:\CRF3\07232002\I981397A.raw

66 <223> OTHER INFORMATION: cDNA probe for cellular protein RIP
68 <400> SEQUENCE: 3
69 gtgctcaatg cagttgggcc ccttgtacac   30
72 <210> SEQ ID NO: 4
73 <211> LENGTH: 27
74 <212> TYPE: DNA
75 <213> ORGANISM: Artificial Sequence
77 <220> FEATURE:
78 <223> OTHER INFORMATION: cDNA probe for cellular protein kinase RICK
80 <400> SEQUENCE: 4
81 gtcgagcagc ggagtgtgga tgtgcag   27
84 <210> SEQ ID NO: 5
85 <211> LENGTH: 23
86 <212> TYPE: PRT
87 <213> ORGANISM: Artificial Sequence
89 <220> FEATURE:
90 <223> OTHER INFORMATION: NIK peptide immunogen
92 <400> SEQUENCE: 5
94 Cys Asn Pro Thr Asn Thr Arg Pro Gln Ser Asp Thr Pro Glu Ile Arg
95 1   5   10   15
98 Lys Tyr Lys Lys Arg Phe Asn
99   20
102 <210> SEQ ID NO: 6
103 <211> LENGTH: 34
104 <212> TYPE: DNA
105 <213> ORGANISM: Artificial Sequence
107 <220> FEATURE:
108 <223> OTHER INFORMATION: loxP sequence for recombination vector
110 <400> SEQUENCE: 6
111 ataacttcgt atagcataca ttatacgaag ttat   34
114 <210> SEQ ID NO: 7
115 <211> LENGTH: 31
116 <212> TYPE: DNA
117 <213> ORGANISM: Artificial Sequence
119 <220> FEATURE:
120 <223> OTHER INFORMATION: primer US-10(200900)SpeI
122 <400> SEQUENCE: 7
123 gctcactagt ggcctagcct ggctcatggc c   31
126 <210> SEQ ID NO: 8
127 <211> LENGTH: 33
128 <212> TYPE: DNA
129 <213> ORGANISM: Artificial Sequence
131 <220> FEATURE:
132 <223> OTHER INFORMATION: primer US-10(198918)PacI
134 <400> SEQUENCE: 8
135 gtccttaatt aagacgtggt tgtggtcacc gaa   33
138 <210> SEQ ID NO: 9
139 <211> LENGTH: 33
140 <212> TYPE: DNA

RAW SEQUENCE LISTING   DATE: 07/23/2002
PATENT APPLICATION: US/09/981,397A   TIME: 15:12:40

Input Set : A:\PTO.VSK.txt
Output Set: N:\CRF3\07232002\I981397A.raw

```
141 <213> ORGANISM: Artificial Sequence
143 <220> FEATURE:
144 <223> OTHER INFORMATION: primer US-9-3'PmeI
146 <400> SEQUENCE: 9
147 ctcggtttaa acgacgtgag gcgctccgtc acc                          33
150 <210> SEQ ID NO: 10
151 <211> LENGTH: 31
152 <212> TYPE: DNA
153 <213> ORGANISM: Artificial Sequence
155 <220> FEATURE:
156 <223> OTHER INFORMATION: primer US-5'CLAI
158 <400> SEQUENCE: 10
159 ttgcatcgat acggtgtgag ataccacgat g                            31
162 <210> SEQ ID NO: 11
163 <211> LENGTH: 20
164 <212> TYPE: DNA
165 <213> ORGANISM: Artificial Sequence
167 <220> FEATURE:
168 <223> OTHER INFORMATION: primer US-9(198789)
170 <400> SEQUENCE: 11
171 tgacgcgagt attacgtgtc                                         20
174 <210> SEQ ID NO: 12
175 <211> LENGTH: 19
176 <212> TYPE: DNA
177 <213> ORGANISM: Artificial Sequence
179 <220> FEATURE:
180 <223> OTHER INFORMATION: primer US-10(199100)
182 <400> SEQUENCE: 12
183 ctcctcctga tatgcggtt                                          19
186 <210> SEQ ID NO: 13
187 <211> LENGTH: 2501
188 <212> TYPE: DNA
189 <213> ORGANISM: Homo sapiens
191 <400> SEQUENCE: 13
192 ggcaccagtc tctagaaaag aagtcagctc tggttcggag aagcagcggc tggcgtgggc   60
194 catccgggga atgggcgccc tcgtgaccta gtgttgcggg gcaaaaaggg tcttgccggc   120
196 ctcgctcgtg caggggcgta tctgggcgcc tgagcgcgca gtgggagcct tgggagccgc   180
198 cgcagcaggg ggcacacccg gaaccggcct gagcgcccgg gaccatgaac ggggaggcca   240
200 tctgcagcgc cctgcccacc attccctacc acaaactcgc cgacctgcgc tacctgagcc   300
202 gcggcgcctc tggcactgtg tcgtccgccc gccacgcaga ctggcgcgtc caggtggccg   360
204 tgaagcacct gcacatccac actccgctgc tcgacagtga aagaaaggat gtcttaagag   420
206 aagctgaaat tttacacaaa gctagattta gttacattct tccaattttg ggaatttgca   480
208 atgagcctga atttttggga atagttactg aatacatgcc aaatggatca ttaaatgaac   540
210 tcctacatag gaaaactgaa tatcctgatg ttgcttggcc attgagattt cgcatcctgc   600
212 atgaaattgc ccttggtgta aattacctgc acaatatgac tcctccttta cttcatcatg   660
214 acttgaagac tcagaatatc ttattggaca atgaatttca tgttaagatt gcagattttg   720
216 gtttatcaaa gtggcgcatg atgtccctct cacagtcacg aagtagcaaa tctgcaccag   780
218 aaggagggac aattatctat atgccacctg aaaactatga acctggacaa aaatcaaggg   840
220 ccagtatcaa gcacgatata tatagctatg cagttatcac atgggaagtg ttatccagaa   900
```

RAW SEQUENCE LISTING   DATE: 07/23/2002
PATENT APPLICATION: US/09/981,397A   TIME: 15:12:40

Input Set : A:\PTO.VSK.txt
Output Set: N:\CRF3\07232002\I981397A.raw

```
222 aacagccttt tgaagatgtc accaatcctt tgcagataat gtatagtgtg tcacaaggac   960
224 atcgacctgt tattaatgaa gaaagtttgc catatgatat acctcaccga gcacgtatga  1020
226 tctctctaat agaaagtgga tgggcacaaa atccagatga aagaccatct ttcttaaaat  1080
228 gtttaataga acttgaacca gttttgagaa catttgaaga gataactttt cttgaagctg  1140
230 ttattcagct aaagaaaaca aagttacaga gtgtttcaag tgccattcac ctatgtgaca  1200
232 agaagaaaat ggaattatct ctgaacatac ctgtaaatca tggtccacaa gaggaatcat  1260
234 gtggatcctc tcagctccat gaaaatagtg gttctcctga aacttcaagg tccctgccag  1320
236 ctcctcaaga caatgatttt ttatctagaa aagctcaaga ctgttatttt atgaagctgc  1380
238 atcactgtcc tggaaatcac agttgggata gcaccatttc tggttctcaa agggctgcat  1440
240 tctgtgatca caagaccact ccatgctctt cagcaataat aaatccactc tcaactgcag  1500
242 gaaactcaga acgtctgcag cctggtatag cccagcagtg gatccagagc aaaagggaag  1560
244 acattgtgaa ccaaatgaca gaagcctgcc ttaaccagtc gctagatgcc cttctgtcca  1620
246 gggacttgat catgaaagag gactatgaac ttgttagtac caagcctaca aggacctcaa  1680
248 aagtcagaca attactagac actactgaca tccaaggaga agaatttgcc aaagttatag  1740
250 tacaaaaatt gaaagataac aaacaaatgg gtcttcagcc ttacccggaa atacttgtgg  1800
252 tttctagatc accatctttta aatttacttc aaaataaaag catgtaagtg actgttttttc  1860
254 aagaagaaat gtgtttcata aaaggatatt tatatctctg ttgctttgac ttttttttata  1920
256 taaaatccgt gagtattaaa gctttattga aggttctttg ggtaaatatt agtctccctc  1980
258 catgacactg cagtatttttt tttaattaat acaagtaaaa agttgaattt ggttgaattt  2040
260 gctacatagt tcaatttttta tgtctctttt gttaacagaa accactttta aaggatagta  2100
262 attattcttg tttataacag tgccttaagg tatgatgtat ttctgatgga agccattttc  2160
264 acattcatgt tcttcatgga ttatttgtta cttgtctaag atgcaatttg attttatgaa  2220
266 gtatataccc tttacccacc agagacagta cagaatccct gccctaaaat cccaggctta  2280
268 attgccctac aaagggttat taatttaaaa ctccattatt aggattacat tttaaagttt  2340
270 tatttatgaa ttcccttttaa aaatgatatt tcaaaggtaa aacaatacaa tataaagaaa  2400
272 aaaataaata tattaatacc ggcttcctgt ccccattttt aacctcagcc ttccctactg  2460
274 tcaccaacaa ccaagctaaa taaagtcaac agcctgatgt g                       2501
277 <210> SEQ ID NO: 14
278 <211> LENGTH: 540
279 <212> TYPE: PRT
280 <213> ORGANISM: Homo sapiens
282 <400> SEQUENCE: 14
284 Met Asn Gly Glu Ala Ile Cys Ser Ala Leu Pro Thr Ile Pro Tyr His
285 1               5                   10                  15
288 Lys Leu Ala Asp Leu Arg Tyr Leu Ser Arg Gly Ala Ser Gly Thr Val
289             20                  25                  30
292 Ser Ser Ala Arg His Ala Asp Trp Arg Val Gln Val Ala Val Lys His
293         35              .       40                  45
296 Leu His Ile His Thr Pro Leu Leu Asp Ser Glu Arg Lys Asp Val Leu
297     50                  55                  60
300 Arg Glu Ala Glu Ile Leu His Lys Ala Arg Phe Ser Tyr Ile Leu Pro
301 65                  70                  75                  80
304 Ile Leu Gly Ile Cys Asn Glu Pro Glu Phe Leu Gly Ile Val Thr Glu
305                 85                  90                  95
308 Tyr Met Pro Asn Gly Ser Leu Asn Glu Leu Leu His Arg Lys Thr Glu
309             100                 105                 110
312 Tyr Pro Asp Val Ala Trp Pro Leu Arg Phe Arg Ile Leu His Glu Ile
313             115                 120                 125
316 Ala Leu Gly Val Asn Tyr Leu His Asn Met Thr Pro Pro Leu Leu His
```

RAW SEQUENCE LISTING   DATE: 07/23/2002
PATENT APPLICATION: US/09/981,397A   TIME: 15:12:40

Input Set : A:\PTO.VSK.txt
Output Set: N:\CRF3\07232002\I981397A.raw

```
317      130                   135                   140
320 His Asp Leu Lys Thr Gln Asn Ile Leu Leu Asp Asn Glu Phe His Val
321 145                   150                   155                   160
324 Lys Ile Ala Asp Phe Gly Leu Ser Lys Trp Arg Met Met Ser Leu Ser
325                   165                   170                   175
328 Gln Ser Arg Ser Ser Lys Ser Ala Pro Glu Gly Gly Thr Ile Ile Tyr
329                   180                   185                   190
332 Met Pro Pro Glu Asn Tyr Glu Pro Gly Gln Lys Ser Arg Ala Ser Ile
333             195                   200                   205
336 Lys His Asp Ile Tyr Ser Tyr Ala Val Ile Thr Trp Glu Val Leu Ser
337      210                   215                   220
340 Arg Lys Gln Pro Phe Glu Asp Val Thr Asn Pro Leu Gln Ile Met Tyr
341 225                   230                   235                   240
344 Ser Val Ser Gln Gly His Arg Pro Val Ile Asn Glu Glu Ser Leu Pro
345                   245                   250                   255
348 Tyr Asp Ile Pro His Arg Ala Arg Met Ile Ser Leu Ile Glu Ser Gly
349             260                   265                   270
352 Trp Ala Gln Asn Pro Asp Glu Arg Pro Ser Phe Leu Lys Cys Leu Ile
353             275                   280                   285
356 Glu Leu Glu Pro Val Leu Arg Thr Phe Glu Glu Ile Thr Phe Leu Glu
357      290                   295                   300
360 Ala Val Ile Gln Leu Lys Lys Thr Lys Leu Gln Ser Val Ser Ser Ala
361 305                   310                   315                   320
364 Ile His Leu Cys Asp Lys Lys Lys Met Glu Leu Ser Leu Asn Ile Pro
365             325                   330                   335
368 Val Asn His Gly Pro Gln Glu Glu Ser Cys Gly Ser Ser Gln Leu His
369             340                   345                   350
372 Glu Asn Ser Gly Ser Pro Glu Thr Ser Arg Ser Leu Pro Ala Pro Gln
373             355                   360                   365
376 Asp Asn Asp Phe Leu Ser Arg Lys Ala Gln Asp Cys Tyr Phe Met Lys
377      370                   375                   380
380 Leu His His Cys Pro Gly Asn His Ser Trp Asp Ser Thr Ile Ser Gly
381 385                   390                   395                   400
384 Ser Gln Arg Ala Ala Phe Cys Asp His Lys Thr Thr Pro Cys Ser Ser
385             405                   410                   415
388 Ala Ile Ile Asn Pro Leu Ser Thr Ala Gly Asn Ser Glu Arg Leu Gln
389             420                   425                   430
392 Pro Gly Ile Ala Gln Gln Trp Ile Gln Ser Lys Arg Glu Asp Ile Val
393             435                   440                   445
396 Asn Gln Met Thr Glu Ala Cys Leu Asn Gln Ser Leu Asp Ala Leu Leu
397      450                   455                   460
400 Ser Arg Asp Leu Ile Met Lys Glu Asp Tyr Glu Leu Val Ser Thr Lys
401 465                   470                   475                   480
404 Pro Thr Arg Thr Ser Lys Val Arg Gln Leu Leu Asp Thr Thr Asp Ile
405                   485                   490                   495
408 Gln Gly Glu Glu Phe Ala Lys Val Ile Val Gln Lys Leu Lys Asp Asn
409             500                   505                   510
412 Lys Gln Met Gly Leu Gln Pro Tyr Pro Glu Ile Leu Val Val Ser Arg
413             515                   520                   525
```

RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 07/23/2002
PATENT APPLICATION: US/09/981,397A   TIME: 15:12:41

Input Set : **A:\PTO.VSK.txt**
Output Set: **N:\CRF3\07232002\I981397A.raw**

<u>Please Note:</u>
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; N Pos. 18
Seq#:15; N Pos. 2141,2311,2452,2496